REMARKS

Claims 1-16 are pending in the present application. Claims 12-16 have been added, and claims 1-3 and 5-11 have been amended. No new matter has been added. Applicant respectfully requests reconsideration of the claims in view of the following remarks.

The specification has been objected to for failing to show section headings. These headings have been added herein. The title has also been amended to be more descriptive.

The drawings have been objected to. To clear up these objections, the reference numeral "26" on page 10 has been removed and the reference numbers 300 and 301 have been added to page 11 of the application. In addition, a "prior art" legend has been added to Figure 1 and the term "Al" has been removed from Figure 2.

Claims 2-3 and 9-10 have been objected to because of informalities. Each of these objections has been attended to as suggested in the Office Action.

Claims 1-4, 6, 8-11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Gabriel, *et al.* (U.S. Patent Application Publication No. 2004/0145056, hereinafter "Gabriel") in view of Yagi, *et al.* (U.S. Patent No. 6,020,215, hereinafter "Yagi"). Dependent claims 5 and 7 have been rejected as being obvious over these references in combination with additional prior art. Applicant respectfully traverses these rejections.

Claim 1, as amended, requires that the substrate is non-inert against fluorine chemistry. This is based on the problem mentioned in the last eight lines of paragraph [0020]. Fluorine chemistry, if used to remove a sacrificial layer, tends to be too reactive thereby underetching metal of the base layer. Underetching means that the layer underlying the base layer – which is the substrate, usually of silicon – is etched and thus non-inert.

Claim 1 also requires providing an etch stop layer of electrically insulating material at a first side of the substrate, providing a base layer of an electrically conductive material on the etch stop layer, and providing a sacrificial layer which at least covers a first electrode in the base layer. This structure is suitable to allow, the claimed step of "removing selective areas of said sacrificial layer by means of dry chemical etching, ... wherein said dry chemical etching is performed using a fluorine-containing plasma, and the etch stop layer comprises a substantially non-conducting, fluorine chemistry inert material."

Applicant respectfully submits that the claimed invention is not taught or suggested by the prior art.

In particular, Gabriel discloses a MEMS manufacturing process using a substrate, a base metal layer directly on the substrate and at least one sacrificial layer, as well as further metal layers. Sacrificial layers may be removed by wet etch or dry etch using oxygen or fluorine containing plasma. Gabriel does not, however, use or mention an etch stop layer.

In the rejection, the Office Action contends that the remaining thin sacrificial layer on top of the substrate is "proof for the etch stop function" of the sacrificial layer 14 (see Figs. 5, 7 or 8, for example). This does not comply with common knowledge and the common use of the term "etch stop." According to claim 1 of the present application the etch stop layer is inert against fluorine chemistry. This is not the case in Gabriel. See Fig. 5, where layer 14 has been significantly reduced in thickness after etching and removing the overlying sacrificial layer of the same material. Clearly, this material is not an "etch stop layer comprises a substantially non-conducting, fluorine chemistry inert material," as required by claim 1.

Yagi has been cited to disclose a non-conducting etch stop that is inert to fluorine chemistry. Yagi shows a MEMS manufacturing process using an oxygen plasma to remove a

sacrificial layer of polyimide. See Fig. 9 and accompanying description, example 6 on col. 15 and 16. Yagi does not explicitly show that the substrate is inert against oxygen plasma and Yagi does not disclose an etch stop between substrate and sacrificial layer as claimed in present claim 1. Moreover Yagi does not use fluorine chemistry. Thus, no hints can be taken from Yagi if looking for an etch stop for a dry etch with fluorine chemistry.

Since there is no mention of any etch stop in Gabriel and Yagi, the requirement of the claimed etch stop layer into the MEMS process is inventive and not obvious over the cited prior art. Therefore, it is respectfully submitted that claim 1 is allowable over the references of record.

Claims 1-6 and 12-16 depend from claim 1 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claim 8, as amended, recites that "the device is provided with an etch stop layer between the first electrode and the substrate which etch stop layer comprises a substantially non-conducting, fluorine chemistry inert material and the substrate being etchable with fluorine chemistry." As discussed above with respect to claim 1, the prior art does not teach or suggest such an etch stop layer.

Claims 9-11 depend from claim 8 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations

Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Ira S. Matsil, Applicant's attorney, at 972-732-1001 so that such issues may be resolved as expeditiously as possible. The Commissioner is hereby authorized to charge any fees that are due, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

9/8/06
Date

Ira S. Matsil
Attorney for Applicant
Reg. No. 35,272

SLATER & MATSIL, L.L.P.
17950 Preston Rd., Suite 1000
Dallas, Texas 75252
Tel.: 972-732-1001
Fax: 972-732-9218